



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,293	04/21/2004	Kazuhiro Satoh	042344	4793
38834 7590 03/22/2007 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			EXAMINER PERVAN, MICHAEL	
			ART UNIT 2629	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/22/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/828,293

Applicant(s)

SATO ET AL.

Examiner

Michael Pervan

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/21/04, 12/12/06.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson et al (US 2004/0164939).

In regards to claim 1, Johnson discloses a self-light-emitting module comprising a light-emitting display panel in which a number of pixels using a self-light-emitting element (LEDs) with an electric polarity are arranged in a matrix manner, and a lighting drive device for selective lighting drive of the self-light-emitting elements on the light-emitting display panel (Fig. 2 and paragraph 19), wherein

a malfunction detection unit (current measurement capability), by which malfunction in light emitting caused by defects in the light-emitting display panel, the lighting drive device, or a connecting portion between the light-emitting display panel and the lighting drive device is detected, is further provided (paragraphs 20-23; the malfunction detection unit (current measurement capability) measures the leakage current and detects weak or deteriorating diodes).

Art Unit: 2629

In regards to claim 2, Johnson discloses the self-light-emitting module according to claim 1, wherein

the malfunction detection unit has a configuration by which an operation, by which malfunction in light emitting caused by defects in the light-emitting display panel, the lighting drive device, or the connecting portion between the light-emitting display panel and the lighting drive device is detected, can be executed at arbitrary timing under a state in which the self-light-emitting display module is installed in a device using the module (paragraphs 21-22; since a particular time is not specified, it is arbitrary and can be performed at any instance).

In regards to claims 3-4, Johnson discloses the self-light-emitting module according to claim 1, wherein

the malfunction detection unit has a configuration by which malfunction in light emitting of all pixels using the self light-emitting elements arranged on the light-emitting display panel can be detected (paragraphs 25-26; the exact location of a malfunction (weak diode) can be detected from among all pixels).

In regards to claim 5, Johnson discloses the self-light-emitting module according to any one of claims 1 to 4, wherein the malfunction detection unit has a configuration by which the coordinate of a pixel using the self light-emitting element arranged on the light-emitting display panel can be detected (paragraphs 25-26; the exact location of a malfunction (weak diode) can be detected from among all pixels).

In regards to claims 6 and 7, Johnson discloses the self-light-emitting module according to any one of claims 1 to 4, wherein the malfunction detection unit has a

Art Unit: 2629

configuration by which a value of a current passing in the non-light-emitting direction of the self-light-emitting element can be measured (paragraph 22).

In regards to claims 8-9 , Johnson discloses the self-light-emitting module according to claim 6, comprising a function by which a defect pattern in the light-emitting display panel, the lighting drive device, or the connecting portion between the light-emitting display panel and the lighting drive device is identified by the value of a current passing in the non-light-emitting direction of the self-light-emitting element (Figs. 3-4 and paragraph 26).

In regards to claims 10-13, Johnson discloses the self-light-emitting module according to claim 6, wherein the malfunction detection unit has a configuration by which the value of a current passing in the non-light-emitting direction of the self-light-emitting element is converted into a digital value (paragraph 24; since the value is stored in memory it must be digital).

In regards to claims 14-16, Johnson discloses the self-light-emitting module according to any one of claims 1 to 4, having a configuration by which a storage notification unit is driven, based on detection of malfunction in light emitting by the malfunction detection unit (paragraph 24).

In regards to claim 17, Johnson discloses the self-light-emitting module according to any one of claims 1 to 4, wherein light-emitting elements arranged on the light-emitting display panel are organic EL elements using an organic compound for a light-emitting layer (paragraph 1 and 5).

Claim Rejections - 35 USC § 103

Art Unit: 2629

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al in view of Nagai et al (US 2002/0163514; as submitted by applicant).

In regards to claim 18, Johnson discloses a method for verifying a defect state of a self-light-emitting display module comprising a light-emitting display panel in which a number of pixels using a self-light-emitting element with an electric polarity are arranged in a matrix manner (paragraph 19), a lighting drive device for selective lighting drive of the self-light-emitting elements on the light-emitting display panel (paragraph 19; lighting drive device (driving means 1), a malfunction detection unit (current measurement capability), by which malfunction in light emitting caused by defects in the light-emitting display panel, the lighting drive device, or a connecting portion between the light-emitting display panel and the lighting drive device is detected (paragraphs 20-23; the malfunction detection unit (current measurement capability) measures the leakage current and detects weak or deteriorating diodes), wherein

the malfunction detection unit sequentially executes

a current supply step at which a current is supplied in a non-light-emitting direction of the element concerned to the self-light-emitting under a state in which charges are discharged (paragraphs 21 and 22; since $V=IR$ and a voltage is being supplied, therefore a current is being supplied);

a current-value measure step at which a value of a current passing in a pixel including the self-light-emitting element after a predetermined time has passed from the starting point for supplying the current (paragraph 22); and

a determination step at which the presence of a defect in the light-emitting display panel, the lighting drive device, or the connecting portion between the light-emitting display panel and the lighting drive device is determined by a value of a current measured at the current-value measure step (paragraph 22), and

a storage notification unit is activated according to the defect state determined at the determination step (paragraph 24).

Johnson does not disclose a charge discharge step at which charges accumulated in the self-light-emitting elements arranged on the light-emitting display panel are discharged.

Nagai discloses a charge discharge step at which charges accumulated in the self-light-emitting elements arranged on the light-emitting display panel are discharged (paragraph 51; since the common line is tied to GND any charge on the pixel would be discharged).

It would have been obvious at the time of invention to modify Johnson with the teachings of Nagai, a charge discharge step, by incorporating the teachings of Nagai into the device of Johnson because it would allow for more accurate measurements since there would be no residual effect from accumulated charges.

In regards to claim 19, Johnson discloses the method for verifying a defect state of a self-light-emitting display module according to claim 18, wherein

the storage notification unit is activated according to a position of a defective pixel on the light-emitting display panel when the presence of a defect in a pixel arranged on the light-emitting display panel is identified at the determination step (paragraph 24).

In regards to claim 20, Johnson discloses the method for verifying a defect state of a self-light-emitting display module according to claim 18 or 19, wherein

the current supply step, the current-value measure step, and the determination step are executed for each row or for each column of the self-light-emitting elements arranged in a matrix manner (paragraphs 22 and 25-26).

Johnson does not disclose the charge discharge step is executed for each row or for each column of the self-light-emitting elements arranged in a matrix manner.

Nagai discloses the charge discharge step is executed for each row or for each column of the self-light-emitting elements arranged in a matrix manner (paragraph 51; since the common lines are selectively tied to GND any charge on the pixel would be discharged).

It would have been obvious at the time of invention to modify Johnson with the teachings of Nagai, a charge discharge step executed for each row or column, by incorporating the teachings of Nagai into the device of Johnson because it would allow for more accurate measurements since there would be no residual effect from accumulated charges.

Conclusion

Art Unit: 2629

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVP
Mar. 12, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
Amr Awad